

PATENT ABSTRACTS OF JAPAN

(11)Publication number : **10-047922**
 (43)Date of publication of application : **20.02.1998**

(51)Int.CI.

G01B 11/00
G05D 1/02
G06T 1/00
G06T 7/00
H04N 7/18

(21)Application number : **08-219384**

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(22)Date of filing : **31.07.1996**

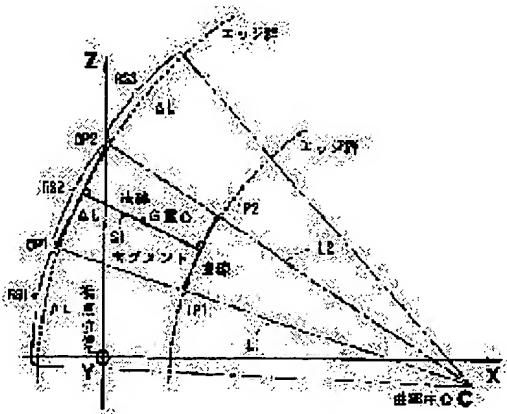
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(54) METHOD AND DEVICE FOR DETECTING LANE ON ROAD SURFACE

(57)Abstract:

PROBLEM TO BE SOLVED: To appropriately detect a lane on a road surface by extracting a pair of edge trains at every divided area divided along a concentric circular arc drawn around the center of curvature of the lane and recognizing the segment between the intersections of the tangential lines and a normal line to the edge trains as the segment of the lane.

SOLUTION: The circular arc of an edge group of a lane drawn in a new picture around the center of the curvature of the lane specified based on the preceding picture is divided into a plurality of areas RS1-RS3 by drawing straight lines L1 and L2 at every prescribed distance ΔL . A pair of edge trains is extracted from the areas. Then the tangential lines to the edge trains on both sides (left and right sides) of the areas RS1-RS3 are specified and, at the same time, the center of gravity G of the edge group is found. After the center of gravity G is found, a straight line, namely, normal line which passes the center of gravity G perpendicularly to the left and right tangential lines is found and the segment between the normal line and the left and right tangential lines is set as a segment Si. Based on the segment Si, a picture specifying the shape of the lane is updated. Therefore, the linearity of the lane can be discriminated and the mean radius of curvature in an arbitrary section, the width of the lane, etc., can be computed.



LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the

examiner's decision of rejection or application
converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]

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